

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Thermocouples –
Part 3: Extension and compensating cables – Tolerances and identification
system**

**Couples thermoélectriques –
Partie 3: Câbles d'extension et de compensation – Tolérances et système
d'identification**



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THERMOCOUPLES –**Part 3: Extension and compensating cables –
Tolerances and identification system**

FOREWORD

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International Standard IEC 60584-3 has been prepared by subcommittee 65B: Devices and process analysis, of IEC Technical Committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition of IEC 60584-3 issued in 1989. It constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- Addition of Subclause 5.4 Connectors.
- Addition of Clauses 7 Dimensions and 8 Requirements.

The text of this standard is based on the following documents:

FDIS	Report on voting
65B/642/FDIS	65B/646/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 60584 series, under the general title *Thermocouples*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

THERMOCOUPLES –

Part 3: Extension and compensating cables – Tolerances and identification system

1 Scope

This part of IEC 60584 specifies manufacturing tolerances for extension and compensating cables (other than mineral insulated cables) provided directly to users of industrial processes. These tolerances are determined with respect to the e.m.f.-temperature relationship of Part 1 of the standard.

The method for identification of insulated thermocouple extension and compensating cables other than mineral insulated cables is described.

Furthermore, requirements for extension and compensating cables for use in industrial process control are specified.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60584-1:1995, *Thermocouples – Part 1: Reference tables*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

extension and compensating cables

are used for the electrical connection between the open ends of a thermocouple and the reference junction in those installations where the conductors of the thermocouple are not directly connected to the reference junction. The thermoelectric properties of extension and compensating cables shall be close to the properties of the corresponding thermocouple.

3.1.1

extension cables

are manufactured from conductors having the same nominal composition as those of the corresponding thermocouple. They are designated by the letter "X" following the designation of the thermocouple, for example "JX".

3.1.2

compensating cables

are manufactured from conductors having a composition different from the corresponding thermocouple. They are designated by the letter "C" following the designation of the thermocouple, for example "KC". In some cases different tolerances apply for the same thermocouple type over different temperature ranges. These are distinguished by additional letters such as, for example, KCA and KCB.